



Vermont State Airport System Plan | Vermont Aviation Advisory Council

February 23, 2017



Developed By
McFarland Johnson



Agenda

- Team Introduction
- Project Overview
- Facility and Service Objectives
- Airport Role Assessment
- Next Steps

Project Team



VTrans Staff

- Guy Rouelle - Aviation Program Manager
- Larry Lackey - VTrans Project Manager
- Scott Bascom – State Planning Manager

Consultant Team

- Michael Churchill – Program Manager, Engineering/Cost Estimates
- Rick Lucas – Project Manager
- Scott LeCount - Lead Planner
- Subconsultants
 - Randal Wiedemann - Economic Impact Study
 - Michael Webber (Webber Air Cargo) – Air Cargo Analysis

SASP Uses and Benefits

- Defines the System of Airports
- Identifies Baseline Performance
- Informs Capital Planning/Programming
- Develops Guidance and Policy
- Creates Tools and Resources for Airport System



SASP Elements

- *Facility and Service Objectives – Draft Completed*
- *System Inventory - Underway, Completing/Confirming Data*
- Forecast
- Current/Future Performance
- Recommendations and Policy
- Economic Benefits

Facility and Service **Objectives**



Facility and Service Objectives

- Establish System Goals
- Facility Targets by Role
 - Airside
 - Runways/Taxiways/Approaches
 - Landside
 - Hangars/Fuel/Services



Facility & Service Objectives

VT SASP – Category 1 Airports

Minimum Facility & Service Standard	Recommended Facilities & Services
Primary Runway Length ($\leq 2,500'$) - Paved or Turf	Primary Runway ($\geq 4,200'$)
Part-Time Airport Manager on Site (Seasonal OK)	100LL Self-Service Aviation Fuel on Site
Basic Terminal Building/Shelter	Single-Service SASO at Least Part-Time
Mogas or 100LL Fuel on Site	Lighted Windsock
	Runway and Taxiway Edge Lights
	GPS Instrument Approach Procedure
	Full-Time Airport Manager (Seasonal OK)
	Part-Time Operations Staff

Facility & Service Objectives



VT SASP – Category 2 Airports

Minimum Facility & Service Standard	Recommended Facilities & Services
Primary Runway (>=4,200')	Primary Runway (=5,000')
100LL Self-Service Aviation Fuel on Site	Full-Time Airport Manager with Ops Staff
Single-Service SASO at Least Part-Time	Terminal with Pilot/Visitor Amenities
Lighted Windsock	100LL AND Jet-A Self-Service Fuel
Runway and Taxiway Edge Lights	One Full-Service FBO on Site Full-Time
GPS Instrument Approach Procedure	Runway and Taxiway Edge Lights
Full-Time Airport Manager	Rotating Airport Beacon
Part-Time Operations Staff on Site or Contracted	Own/Operate Snow-Removal Equipment
	Aircraft/Avionics Maintenance Services
	Vertically Guided Approach Procedure

Facility & Service Objectives



VT SASP – Category 3 Airports

Minimum Facility & Service Standard	Recommended Facilities & Services
Primary Runway (=5,000')	On Site Concessions or Restaurant
Full-Time Airport Manager on Site	Precision Instrument Approach
Full-Time Operations Staff on Site	Aircraft/Avionics Maintenance Services
Terminal with Pilot/Visitor Amenities	Rental Cars
100LL AND Jet-A Self-Service Aviation Fuel	No recommended Facilities & Service Objectives related to Scheduled Passenger Service.
One Full-Service FBO on Site Full-Time	
Runway and Taxiway Edge Lights	
Rotating Airport Beacon	
Own/Operate Snow-Removal Equipment	
Aircraft/Avionics Maintenance Services	
Vertically Guided Approach Procedure	

Facility & Service Objectives

VT SASP – Category 4 Airports

Minimum Facility & Service Standard	Recommended Facilities & Services
Terminal Building - Full-Time Passenger and/or Cargo Handling Capabilities (TSA, Customs, etc.)	There are no recommended Facilities & Service Objectives for Category 4 Airports.
Network/Legacy Airline Service	
Intermodal Transportation Connections at/near Site	
On Site Concessions or Restaurant	
ARFF	
Airport Security Measures (SIDA, Badging, Staff etc.)	Most appropriate for Airport Master Plans to address requirements based on passenger service demand.
Precision Instrument Approach (ILS and/or CAT I)	
Aircraft/Avionics Maintenance Services on Site	
Rental Cars	

Preliminary Airport Role Assessment



System Performance Model

■ Weighting & Scoring

– Weights are a Percentage Measure

- Weights of All Facility & Service Objectives for the Entire System = 100%



An Airport that meets
ALL
Minimum
Facility & Service
Objectives
Scores 100

– Minimum Facility & Service Objectives are given a Weight (%)

- Weight reflects the Ranking of Objective within each System Category based on the Specific Facilities & Services Desired for those Airports

– Scores are Assigned for Each Airport based upon if the Facility or Service Objective is Met



Measure	Score Value
Yes	100
No	0
Partial	50

– Formula for Scoring

Performance Model Scoring Formula

Score Value X Weight = Points

System Performance Model

■ Weights & Score Range by Airport Category

– Points Scored determines which Category a System Airport is Placed in:

- Category 1: Airports that Score from 0-15
- Category 2: Airports that Score from 16-41
- Category 3: Airports that Score from 42-90
- Category 4: Airports that Score from 91+

– Notes:

- Only Two Objectives are weighted and scored for Category 4 because they are the minimum threshold to be placed in that Category.

	A	C	D	E	F	G	H
1	EXISTING SYSTEM PERFORMANCE						
2	Scoring Value Range						
	Category / Minimum Facility & Service Objective	Weight	Yes	No	Partial		
3	AIRPORT INFRASTRUCTURE						
4	Minimum Facility Standards						
5	SASP Category 1						
6	Primary Runway Length ($\leq 2,500'$) - Paved or Turf	3%	100	0	50		
7	Part-Time Airport Manager on Site (Seasonal OK)	4%	100	0	50		
8	Basic Terminal Building/Shelter	4%	100	0	50		
9	Mogas or 100LL Fuel on Site	4%	100	0	50		
10							
15				15	0		
16	SASP Category 2						
17	Primary Runway ($\geq 4,200'$) - Paved	3%	100	0	50		
18	100LL Self-Service Aviation Fuel on Site	4%	100	0	50		
19	Full-Time Airport Manager on Site (Seasonal OK)	4%	100	0	50		
20	Part-time Operations Staff on Site or Contracted	3%	100	0	50		
21	Single-Service SASO or Full-service FBO on Site at Least Part-Time	4%	100	0	50		
22	Lighted Windsock	4%	100	0	50		
23	GPS Instrument Approach Procedure	4%	100	0	50		
28				41			
29	SASP Category 3						
30	Primary Runway ($\geq 5,000'$)	3%	100	0	50		
31	Full-Time Airport Manager on Site	5%	100	0	50		
32	Full-Time Operations Staff on Site	4%	100	0	50		
33	Terminal Building with Pilot and Visitor Amenities	4%	100	0	50		
34	100LL AND Jet-A Self-Service Aviation Fuel on Site	4%	100	0	50		
35	One Full-Service FBO on Site Full-Time	5%	100	0	50		
36	Runway and Taxiway Edge Lights	5%	100	0	50		
37	Rotating Airport Beacon	5%	100	0	50		
38	Own/Operate Snow-Removal Equipment	4%	100	0	50		
39	Aircraft/Avionics Maintenance Services on Site	5%	100	0	50		
40	GPS Instrument Approach Procedure with Vertical Guidance	5%	100	0	50		
41				90			
42	SASP Category 4						
43	Terminal Building - Full-Time Passenger and/or Cargo Handling Capa	5%	100	0	50		
44	Network/Legacy Airline Service	5%	100	0	50		
45	Intermodal Transportation Connections at/near Site						
46	ARFF						
47	Airport Security Measures (SIDA, Badging, Staff etc.)						
48	ATCT						
49	On Site Concessions or Restaurant						
50	Precision Instrument Approach Procedure (ILS and/or CAT I)						
51	Aircraft/Avionics Maintenance Services on Site						
52	Rental Cars						
53	Weighted Scores	100%	100				

System Performance Model

Category 1 Airports: Scores from 0-15

Existing Performance Evaluation

Step 1: Consult Inventory Data (Airport Surveys)

Step 2: Assign Score Value (Yes = 100, No = 0, Partial = 50)

Step 3: Model Calculates Point Score

Formula: Score Value X Weight = Points



EXISTING SYSTEM PERFORMANCE													
Category 1 Minimum Facility & Service Objective	Scoring Value Range				System								
	Weight	Yes	No	Partial	Basin Harbor	Burlington Int'l	Caledonia County State	Deerfield Valley Regional	Edward F. Knapp State	Franklin County State	Hartness State	John H.	
AIRPORT INFRASTRUCTURE													
Minimum Facility Standards													
SASP Category 1													
Primary Runway Length (≥ 2,500') - Paved or Turf	3%	100	0	50	100	100	100	100	100	100	100	100	100
Part-Time Airport Manager on Site (Seasonal OK)	4%	100	0	50	100	100	100	0	100	100	100	100	100
Basic Terminal Building/Shelter	4%	100	0	50	0	100	100	0	100	100	100	100	100
Mogas or 100LL Fuel on Site	4%	100	0	50	0	100	100	0	100	100	100	100	100
		15	0		7	15	15	3	15	15	15	15	

System Performance Model

Category 2 Airports: Scores from 16-41

Existing Performance Evaluation

Step 1: Consult Inventory Data (Airport Surveys)

Step 2: Assign Score Value (Yes = 100, No = 0, Partial = 50)

Step 3: Model Calculates Point Score

Formula: Score Value X Weight = Points



Additional Scoring Rules

Runway Length

Attendance Schedule/Management & Staffing

Runway Lighting



EXISTING SYSTEM PERFORMANCE														
Category / Minimum Facility & Service Objective	Scoring Value Range				System Airport									
	Weight	Yes	No	Partial	Basin Harbor	Burlington Int'l	Caledonia County State	Deerfield Valley	Regional Edward F. Knapp State	Franklin County State	Hartness State	John H. Boylan State	Middlebury State	Morrisville-Stowe State
AIRPORT INFRASTRUCTURE														
Minimum Facility Standards														
SASP Category 2														
Primary Runway (≥4,200') - Paved	3%	100	0	50	0	100	0	0	100	0	100	0	0	0
100LL Self-Service Aviation Fuel on Site	4%	100	0	50	0	100	50	0	0	50	100	0	50	50
Full-Time Airport Manager on Site (Seasonal OK)	4%	100	0	50	0	100	50	0	100	50	100	0	50	50
Part-time Operations Staff on Site or Contracted	3%	100	0	50	0	100	50	50	100	50	100	50	50	50
Single-Service SASD or Full-service FBO on Site at Least Part-Time	4%	100	0	50	0	100	50	0	100	50	100	0	50	50
Lighted Windsock	4%	100	0	50	50	100	50	50	100	50	100	50	50	50
GPS Instrument Approach Procedure	4%	100	0	50	0	100	50	50	100	50	100	0	50	50
		41			9	41	27	9	37	27	41	11	27	27

System Performance Model

Category 3 Airports: Scores from 42-90

Existing Performance Evaluation

Step 1: Consult Inventory Data (Airport Surveys)

Step 2: Assign Score Value (Yes = 100, No = 0, Partial = 50)

Step 3: Model Calculates Point Score

Formula: Score Value X Weight = Points



Additional Scoring Rules

Runway Length

Attendance Schedule/Management & Staffing

Runway Lighting



EXISTING SYSTEM PERFORMANCE													
Category 1 Minimum Facility & Service Objective	Scoring Value Range				System								
	Weight	Yes	No	Partial	Basin Harbor	Burlington Int'l	Caledonia County State	Deerfield Valley Regional	Edward F. Knapp State	Franklin County State	Hartness State	John H.	
AIRPORT INFRASTRUCTURE													
Minimum Facility Standards													
SASP Category 3													
Primary Runway (≥ 5,000')	3%	100	0	50	0	100	0	0	100	0	100		
Full-Time Airport Manager on Site	5%	100	0	50	0	100	0	0	100	0	100		
Full-Time Operations Staff on Site	4%	100	0	50	0	100	0	0	100	0	100		
Terminal Building with Pilot and Visitor Amenities	4%	100	0	50	0	100	50	50	100	50	100		
100LL AND Jet-A Self-Service Aviation Fuel on Site	4%	100	0	50	0	100	50	0	50	50	100		
One Full-Service FBO on Site Full-Time	5%	100	0	50	0	100	50	0	100	50	100		
Runway and Taxiway Edge Lights	5%	100	0	50	0	100	50	50	100	50	100		
Rotating Airport Beacon	5%	100	0	50	0	100	0	0	100	50	100		
Own/Operate Snow-Removal Equipment	4%	100	0	50	0	100	50	50	100	50	100		
Aircraft/Avionics Maintenance Services on Site	5%	100	0	50	0	100	0	0	100	50	100		
GPS Instrument Approach Procedure with Vertical Guidance	5%	100	0	50	0	100	0	0	100	100	100		
		90			9	90	36	15	84	48	90		

System Performance Model

Category 4 Airports: Scores of 91+

Existing Performance Evaluation

Step 1: Consult Inventory Data (Airport Surveys)

Step 2: Assign Score Value (Yes = 100, No = 0, Partial = 50)

Step 3: Model Calculates Point Score

Formula: Score Value X Weight = Points



EXISTING SYSTEM PERFORMANCE												
Category / Minimum Facility & Service Objective	Scoring Value Range				Basin Harbor	Burlington Int'l	Caledonia County State	Kingdom Int'l	Post Mills	Rutland - Southern Vermont	Shelburne	Windsor
	Weight	Yes	No	Partial								
AIRPORT INFRASTRUCTURE												
Minimum Facility Standards												
SASP Category 4												
Terminal Building - Full-Time Passenger and/or Cargo Handling Capa	5%	100	0	50	0	100	0	0	0	100	0	0
Network/Legacy Airline Service	5%	100	0	50	0	100	0	0	0	50	0	0
Intermodal Transportation Connections at/near Site					0	100	0	0	0	0	0	0
ARFF					0	100	0	0	0	0	0	
Airport Security Measures (SIDA, Badging, Staff etc.)					0	100	0	0	0	0	0	
ATCT					0	100	0	0	0	0	0	
On Site Concessions or Restaurant					0	100	0	0	0	0	0	
Precision Instrument Approach Procedure (ILS and/or CAT I)					0	100	0	0	0	0	0	
Aircraft/Avionics Maintenance Services on Site					0	100	0	0	0	0	0	
Rental Cars					0	100	0	0	0	0	0	
Weighted Scores	100%	100			9	100	36	90	12	98	36	

System Performance Model

■ Draft/Initial Screening Results

	A	C	D	E	F	G	H	I	K	M	O	Q	S	U	W	Y	AA	AC	AE	AG	AI	AK	AM
1	EXISTING SYSTEM PERFORMANCE																						
2	Category / Minimum Facility & Service Objective	Scoring Value Range				System Airport																	
		Weight	Yes	No	Partial	Basin Harbor	Burlington Int'l	Caledonia County State	Deerfield Valley	Regional Edward F. Knapp State	Franklin County State	Hartness State	John H. Boylan State	Middlebury State	Morrisville-Stowe State	Northeast Kingdom Int'l	Post Mills	Rutland - Southern Vermont	Shelburne	Warren Sugarbush	William H. Morse State		
3																							
4	AIRPORT INFRASTRUCTURE																						
5	Minimum Facility Standards																						
6	SASP Category 1																						
7	Primary Runway Length (≤ 2,500') - Paved or Turf	3%	100	0	50		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
8	Part-Time Airport Manager on Site (Seasonal OK)	4%	100	0	50		100	100	100	0	100	100	100	0	100	100	100	100	100	100	100	100	100
9	Basic Terminal Building/Shelter	4%	100	0	50		0	100	100	0	100	100	100	100	100	100	100	100	0	100	100	100	100
10	Mogas or 100LL Fuel on Site	4%	100	0	50		0	100	100	0	100	100	100	0	100	100	100	100	0	100	100	100	100
15			15	0			7	15	15	3	15	15	15	7	15	15	15	7	15	15	15	15	
16	SASP Category 2																						
17	Primary Runway (≥ 4,200') - Paved	3%	100	0	50		0	100	0	0	100	0	100	0	0	0	100	0	100	0	0	0	0
18	100LL Self-Service Aviation Fuel on Site	4%	100	0	50		0	100	50	0	0	50	100	0	50	50	100	0	100	0	50	50	50
19	Full-Time Airport Manager on Site (Seasonal OK)	4%	100	0	50		0	100	50	0	100	50	100	0	50	50	100	0	100	50	50	50	50
20	Part-time Operations Staff on Site or Contracted	3%	100	0	50		0	100	50	50	100	50	100	50	50	50	100	0	100	50	50	50	50
21	Single-Service SASO or Full-service FBO on Site at Least Part-Time	4%	100	0	50		0	100	50	0	100	50	100	0	50	50	100	0	100	50	50	50	50
22	Lighted Windsock	4%	100	0	50		50	100	50	50	100	50	100	50	50	50	100	50	100	50	50	50	50
23	GPS Instrument Approach Procedure	4%	100	0	50		0	100	50	50	100	50	100	0	50	50	100	0	100	0	0	0	50
28			41				9	41	27	9	37	27	41	11	27	27	41	9	41	23	25	25	
29	SASP Category 3																						
30	Primary Runway (≥ 5,000')	3%	100	0	50		0	100	0	0	100	0	100	0	0	0	100	0	100	0	0	0	0
31	Full-Time Airport Manager on Site	5%	100	0	50		0	100	0	0	100	0	100	0	0	50	100	0	100	50	0	0	0
32	Full-Time Operations Staff on Site	4%	100	0	50		0	100	0	0	100	0	100	0	0	50	100	0	100	50	0	0	0
33	Terminal Building with Pilot and Visitor Amenities	4%	100	0	50		0	100	50	50	100	50	100	0	50	50	100	0	100	50	50	50	50
34	100LL AND Jet-A Self-Service Aviation Fuel on Site	4%	100	0	50		0	100	50	0	50	50	100	0	0	50	100	0	100	0	0	0	50
35	One Full-Service FBO on Site Full-Time	5%	100	0	50		0	100	50	0	100	50	100	0	50	50	100	0	100	50	50	50	50
36	Runway and Taxiway Edge Lights	5%	100	0	50		0	100	50	50	100	50	100	0	50	50	100	0	100	0	0	0	50
37	Rotating Airport Beacon	5%	100	0	50		0	100	0	0	100	50	100	0	0	50	100	0	100	0	0	0	50
38	Own/Operate Snow-Removal Equipment	4%	100	0	50		0	100	50	50	100	50	100	0	50	50	100	0	100	50	0	0	50
39	Aircraft/Avionics Maintenance Services on Site	5%	100	0	50		0	100	0	0	100	50	100	0	50	50	100	50	100	50	0	0	0
40	GPS Instrument Approach Procedure with Vertical Guidance	5%	100	0	50		0	100	0	0	100	100	100	0	0	100	100	0	100	0	0	0	100
41			90				9	90	36	15	84	48	90	11	38	52	90	12	90	36	29	41	
42	SASP Category 4																						
43	Terminal Building - Full-Time Passenger and/or Cargo Handling Capa	5%	100	0	50		0	100	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
44	Network/Legacy Airline Service	5%	100	0	50		0	100	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0
45	Intermodal Transportation Connections at/near Site						0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	ARFF						0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	Airport Security Measures (SIDA, Badging, Staff etc.)						0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	ATCT						0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	On Site Concessions or Restaurant						0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	Precision Instrument Approach Procedure (ILS and/or CAT I)						0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	Aircraft/Avionics Maintenance Services on Site						0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	Rental Cars						0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	Weighted Scores	100%	100				9	100	36	15	84	48	90	11	38	52	90	12	98	36	29	41	

Draft/Initial Screening Results

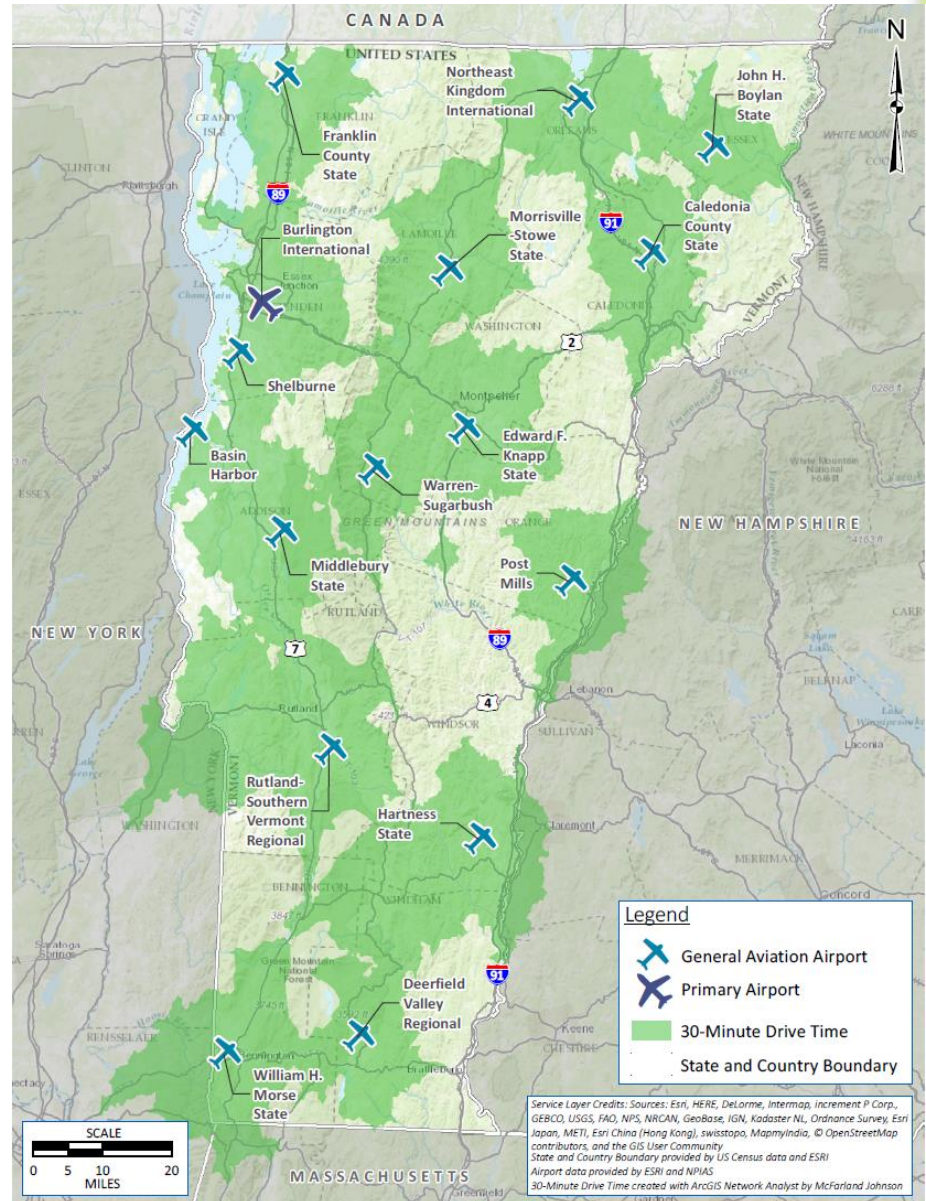
Airport	Score	SASP Category
Basin Harbor	9	1
John H. Boylan State	11	1
Post Mills	12	1
Deerfield Valley Regional	15	1
Warren Sugarbush	29	2
Caledonia County State	36	2
Shelburne	36	2
Middlebury State	38	2
William H. Morse State	41	2
Franklin County State	48	3
Morrisville-Stowe State	52	3
Edward F. Knapp State	84	3
Hartness State	90	3
Northeast Kingdom International	90	3
Rutland – Southern Vermont Regional	98	4
Burlington International	100	4

Next Steps



System Performance Analysis

- Measure Current and Future Conditions
- Uses GIS to Capture & Quantify Feature Attributes
 - Population
 - Geography/Land Area
 - Top Employers
- Drive Times & Air Access (NM from Airport)



Schedule

- **Complete Inventory Efforts** **Mar-2017**
- **System Activity Forecasts** **Mar-Apr 2017**
- **Current System Performance Analysis** **Apr-June 2017**
- **Phase II** **Efforts June 2017-May 2018**
 - **Future Performance**
 - **Recommendations and Policy**
 - **Economic Benefits Assessment**
 - **Final Report Deliverables**

Questions?



Project Contacts

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